AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111

Serial Number: 10/623,685

Filing Date: July 21, 2003

Title: DISPERSING AGENTS FOR PIGMENTS OR EXTENDERS BASED ON ACRYLIC ACID ALKYL ESTER POLYMERS

## IN THE CLAIMS

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Please amend the claims as follows:

1. (Currently Amended) A dispersing agent for pigments or extenders based on comprising an acrylic acid alkyl ester-acrylamide polymer having a weight average molecular weight of 1,000 to 50,000 s, wherein at least part of the ester-groups of the polymers is reacted to form acid amides, characterised in that the dispersing agent is obtainable by the comprising an aminolysis product of ester-groups of the polymer by means of amines, wherein, for the aminolysis, an acrylic acid alkyl ester polymer with at least one amine can be used from the group comprising a) amines of general formula NH<sub>2</sub>—R<sup>1</sup>—NR<sup>2</sup>R<sup>2</sup>, wherein R<sup>1</sup> is a divalent alkylene radical comprising 2—4 carbon atoms and R<sup>2</sup>-and R<sup>3</sup> are aliphatic and/or alicyclic alkyl radicals which comprise 1—12, preferably 1—6 carbon atoms and which can be the same or different, and b) amines of general of a formula NH<sub>2</sub>—R<sup>1</sup>—Z, wherein R<sup>1</sup> is a divalent alkylene radical comprising 2—4 carbon atoms and Z is a 5- or 6-membered N-containing heterocycle which can comprise of up to 2 nitrogen atoms or which can additionally comprise and optionally an oxygen and wherein,

the acrylic acid alkyl ester polymer is a polymer of acrylic acid alkyl ester monomer alone, or with one or more additional monomers selected from the group consisting of itaconic acid ester, maleic acid ester, methacrylic acid ester, (meth)acrylic acid, styrene, alkyl vinyl ether, vinyl acetate, and at least part of the ester groups of the acrylic ester-acrylamide polymer are transesterified with at least one long chain alcohol selected from the group consisting of oleyl alcohol, stearyl alcohol, benzyl alcohol, methoxy polyethylene glycol, butyl triglycol and allyl polyether.

2. (Currently Amended) A dispersing agent of claim 1, characterised in that for wherein the aminolysis of the ester groups of the polymer by means of amines one or more an amines can also be used selected from the group comprising consisting of c) saturated or unsaturated aliphatic amines comprising 6 - 22 carbon atoms, d) alicyclic amines comprising up to 6 carbon atoms, e) aryl-substituted alkylamines, and f) polyoxyalkylene amines NH<sub>2</sub>-R<sup>1</sup>-(O - R<sup>2</sup> -)<sub>x</sub> O - R<sup>3</sup>,

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wherein  $R^1$  is a divalent alkylene radical comprising 2 - 3 carbon atoms,  $R^2$  is a divalent alkylene radical comprising 2 - 4 carbon atoms and  $R^3$  is an alkyl radical comprising 1 - 4 carbon atoms, and any combination thereof, is also used as an amine for the aminolysis product.

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- 3. (Cancelled)
- 4. (Original) A dispersing agent of claim 1, wherein the alkyl radical of the acrylic acid ester contains 1 4 C-atoms.
- 5. (Original) A dispersing agent of claim 1, wherein a catalyst is used for aminolysis.
- 6. (Currently Amended) A dispersing agent of claim 1, wherein the agent the acrylic ester acrylamide polymer has a weight average molecular weight of 1000 50,000, preferably of 2000 20,000.
- 7. (Currently Amended) A dispersing agent of claim 1, wherein-the-product which is obtained by aminolysis with an amine of general formula NH<sub>2</sub>—R<sup>1</sup>—NR<sup>2</sup>R<sup>3</sup> and/or NH<sub>2</sub>—R<sup>1</sup>—Z is reacted to form a salt comprising a phosphoric acid, phosphoric ester, sulfonic acid or carboxylic acid salt of the acrylic ester acrylamide polymer.
- 8. (Currently Amended) The use of a dispersing agent of claim 1 A for the production of pigment concentrates, wherein comprising the dispersing agent of claim 1 is homogenised homogenized together with the pigments and/or extenders to be dispersed optionally in the presence of optional organic solvents and/or water, optionally with optional binder vehicles and optionally with customary optional lacquer adjuvant substances.
- 9. (Currently Amended) The use of a dispersing agent of claim 1 A for the production of a coating medium, wherein comprising a dispersion of the dispersing agent of claim 1 with a binder vehicle, optionally a solvent, pigments and/or extenders, the dispersing agent and optionally adjuvant substances, and optionally a solvent are dispersed together.

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10. (Currently Amended) A process for producing a dispersing agent of claim 1, wherein comprising an acrylic acid ester acrylamide polymer having a weight average molecular weight of 1,000 to 50,000, which process comprises aminolyzing an acrylic acid ester polymer is aminolysed with at least one an amine, wherein the acrylic acid alkyl ester polymer is a polymer of acrylic acid alkyl ester monomer alone or with one of more additional monomers selected from the group consisting of itaconic acid ester, maleic acid ester, (meth)acrylic acid ester, (meth)acrylic acid, styrene, alkyl vinyl ether and vinyl acetate, and at least part of the ester groups of the acrylic ester-acrylamide polymer are transesterified with at least one long chain alcohol selected from the group consisting of oleyl alcohol, stearyl alcohol, benzyl alcohol, methoxy polyethylene glycol, butyl triglycol and allyl polyether at least part of the ester-groups of the polymer is reacted to form acid amides and wherein for the aminolysis at least one amine ean be used-from the group comprising a) amines of general formula NH2-R<sup>4</sup> - NR<sup>2</sup>R<sup>3</sup>, wherein R<sup>4</sup>-is a divalent-alkylene radical comprising 2 - 4 carbon atoms and R<sup>2</sup>-and R<sup>2</sup>-are aliphatic and/or alieyclic alkyl radicals comprising 1 - 12, preferably 1 - 6 carbon atoms which can be the same er different, and b) and wherein the amine has amines of general a formula NH<sub>2</sub>R<sup>1</sup>- Z, wherein R<sup>1</sup> is a divalent alkylene radical comprising 2 – 4 carbon atoms is and Z is a 5- or 6-membered N-containing heterocycle which can comprise of up to 2 nitrogen atoms or which can additionally comprise and optionally an oxygen.

11. (Currently Amended) A process for producing a dispersing agent according to claim 10, characterized in that for the aminolysis further comprising aminolyzing with one or more an aminos can also be used selected from the group comprising consisting of c) saturated or unsaturated aliphatic amines comprising 6 - 22 carbon atoms, d) alicyclic amines comprising up to 6 carbon atoms, e) aryl-substituted alkylamines and f) polyoxyalkylene amines NH<sub>2</sub>-R<sup>1</sup>- (O - R<sup>2</sup>-)<sub>x</sub> - O - R<sup>3</sup>, wherein R<sup>1</sup> is a divalent alkylene radical comprising 2 - 3 carbon atoms, R<sup>2</sup> is a divalent alkylene radical comprising 2 - 4 carbon atoms and R<sup>3</sup> is an alkyl radical comprising 1 - 4 carbon atoms and any combination thereof.

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## **CONCLUSION**

In accordance with 37 CFR 1.173(b), only the non-compliant section of Applicant's previously-submitted Amendment and Response has been included in this response.

Applicant respectfully submits that the Examiner withdraw the non-compliant status and examine the response as appropriate.

The Examiner is invited to telephone Applicant's attorney at (612) 373-6939 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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By his Representatives,

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Signature

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop Amendment, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 5th day of May, 2006.

PATRICIA A. HULTMAN

Name